Train Accident Cause Codes

BOOKMARKS to TRAIN ACCIDENT CAUSE CODES

Train Accident Cause Codes

TRACK, ROADBED AND STRUCTURES

ROADBED

T001 Roadbed settled or soft

T002 Washout/rain/slide/flood/snow/ice damage to track

T099 Other roadbed defects (Provide detailed description in narrative)

TRACK GEOMETRY

T101 Cross level of track irregular (at joints)

T102 Cross level of track irregular (not at joints)

T103 Deviation from uniform top of rail profile

T104 Disturbed ballast section

T105 Insufficient ballast section

T106 Superelevation improper, excessive, or insufficient

T107 Superelevation runoff improper

T108 Track alignment irregular (other than buckled/sunkink)

T109 Track alignment irregular (buckled/sunkink)

T110 Wide gage (due to defective or missing crossties)

T111 Wide gage (due to defective or missing spikes or other rail fasteners)

T112 Wide gage (due to loose, broken, or defective gage rods)

T113 Wide gage (due to worn rails)

T199 Other track geometry defects (Provide detailed description in narrative)

Train Accident Cause Codes

RAIL, JOINT BAR AND RAIL ANCHORING

T201	Bolt hole crack or break
T202	Broken base of rail
T203	Broken weld (plant)
T204	Broken weld (field)
T205	Defective or missing crossties (use code T110 if results in wide gage)
T206	Defective spikes or missing spikes or other rail fasteners (use code T111 if results in wide gage)
T207	Detail fracture from shelling or head check
T208	Engine burn fracture
T210	Head and web separation (outside joint bar limits)
T211	Head and web separation (within joint bar limits)
T212	Horizontal split head
T213	Joint bar broken (compromise)
T214	Joint bar broken (insulated)
T215	Joint bar broken (non insulated)
T216	Joint bolts, broken, or missing
T217	Mismatched rail-head contour
T218	Piped rail
T219	Rail defect with joint bar repair
T220	Transverse/compound fissure
T221	Vertical split head
T222	Worn rail
T299	Other rail and joint bar defects (Provide detailed description in narrative)

Train Accident Cause Codes

FROGS, SWITCHES AND TRACK APPLIANCES

T301	Derail, defective
T302	Expansion joint failed or malfunctioned
T303	Guard rail loose/broken or mislocated
T304	Railroad crossing frog, worn or broken
T305	Retarder worn, broken, or malfunctioning
T306	Retarder yard skate defective
T307	Spring/power switch mechanism malfunction
T308	Stock rail worn, broken or disconnected
T309	Switch (hand operated) stand mechanism broken, loose, or worn
T310	Switch connecting or operating rod is broken or defective
T311	Switch damaged or out of adjustment
T312	Switch lug/crank broken
T313	Switch out of adjustment because of insufficient rail anchoring
T314	Switch point worn or broken
T315	Switch rod worn, bent, broken, or disconnected
T316	Turnout frog (rigid) worn, or broken
T317	Turnout frog (self guarded), worn or broken
T318	Turnout frog (spring) worn, or broken
T319	Switch point gapped (between switch point and stock rail)
T399	Other frog, switch and track appliance defects (Provide detailed description in narrative)

Train Accident Cause Codes

OTHER WAY AND STRUCTURE

T401	Bridge misalignment or failure
T402	Flangeway clogged
T403	Engineering design or construction
T499	Other way and structure defect (Provide detailed description in narrative)

SIGNAL AND COMMUNICATION

S001	Automatic cab signal displayed false proceed
S002	Automatic cab signal inoperative
S003	Automatic train control system inoperative
S004	Automatic train-stop device inoperative
S005	Block signal displayed false proceed
S006	Classification yard automatic control system switch failure
S007	Classification yard automatic control system retarder failure
S008	Fixed signal improperly displayed (defective)
S009	Interlocking signal displayed false proceed
S010	Power device interlocking failure
S011	Power switch failure
S012	Radio communication equipment failure
S013	Other communication equipment failure
S099	Other signal failures (Provide detailed description in narrative)

Train Accident Cause Codes

MECHANICAL AND ELECTRICAL FAILURES

BRAKES

E00C	Air hose uncoupled or burst
E00L	Air hose uncoupled or burst (LOCOMOTIVE)
E01C	Hydraulic hose uncoupled or burst
E01L	Hydraulic hose uncoupled or burst (LOCOMOTIVE)
E02C	Broken brake pipe or connections
E02L	Broken brake pipe or connections (LOCOMOTIVE)
E03C	Obstructed brake pipe (closed angle cock, ice, etc.)
E03L	Obstructed brake pipe (closed angle cock, ice, etc.) (LOCOMOTIVE)
E04C	Other brake components damaged, worn, broken, or disconnected
E04L	Other brake components damaged, worn, broken, or disconnected (LOCOMOTIVE)
E05C	Brake valve malfunction (undesired emergency)
E05L	Brake valve malfunction (undesired emergency) (LOCOMOTIVE)
E06C	Brake valve malfunction (stuck brake, etc.)
E06L	Brake valve malfunction (stuck brake, etc.) (LOCOMOTIVE)
E07C	Rigging down or dragging
E07L	Rigging down or dragging (LOCOMOTIVE)
E08C	Hand brake (including gear) broken or defective
E08L	Hand brake (including gear) broken or defective (LOCOMOTIVE)
E0HC	Hand brake linkage and/or connections broken or defective
E0HL	Hand brake linkage/Connections broken/defective (LOCOMOTIVE)
E09C	Other brake defects, cars (Provide detailed description in narrative)
E09L	Other brake defects, (Provide detailed description in narrative) (LOCOMOTIVE)

TRAILER OR CONTAINER ON FLATCAR

E11C	Broken or defective tiedown equipment
E12C	Broken or defective container
E13C	Broken or defective trailer
E19C	Other trailer or container on flat car defects (Provide detailed description in narrative)

Train Accident Cause Codes

	BODY
E20C	Body bolster broken or defective
E20L	Body bolster broken or defective (LOCOMOTIVE)
E21C	Center sill broken or bent
E21L	Center sill broken or bent (LOCOMOTIVE)
E22C	Draft sill broken or bent
E22L	Draft sill broken or bent (LOCOMOTIVE)
E23C	Center plate broken or defective
E23L	Center plate broken or defective (LOCOMOTIVE)
E24C	Center plate disengaged from truck (car off center)
E24L	Center plate disengaged from truck unit/off center (LOCOMOTIVE)
E25C	Center pin broken or missing
E25L	Center pin broken or missing (LOCOMOTIVE)
E26C	Center plate attachment defective
E26L	Center plate attachment defective (LOCOMOTIVE)
E27C	Side sill broken
E27L	Side sill broken (LOCOMOTIVE)
E29C	Other body defects, (CAR) (Provide detailed description in narrative)
E29L	Other body defects, (LOCOMOTIVE) (Provide detailed description in narrative)
	COUPLER AND DRAFT SYSTEM
E30C	Knuckle broken or defective
E30L	Knuckle broken or defective (LOCOMOTIVE)
E31C	Coupler mismatch, high/low
E31L	Coupler mismatch, high/low (LOCOMOTIVE)
E32C	Coupler draw head broken or defective
E32L	Coupler draw head broken or defective (LOCOMOTIVE)
E33C	Coupler retainer pin/cross key missing
E33L	Coupler retainer pin/cross key missing (LOCOMOTIVE)
E34C	Draft gear/mechanism broken or defective (including yoke)
E34L	Draft gear/mechanism broken/defective (including yoke) (LOCOMOTIVE)
E35C	Coupler carrier broken or defective
E35L	Coupler carrier broken or defective (LOCOMOTIVE)

Train Accident Cause Codes

(Continued)
COUPLER AND DRAFT SYSTEM

E36C	Coupler shank broken or defective (includes defective alignment control)
E36L	Coupler shank broken or defective (includes defective includes defective alignment control) (LOCOMOTIVE)
E37C	Failure of articulated connectors
E37L	Failure of articulated connectors (LOCOMOTIVE)
E39C	Other coupler and draft system defects, (CAR) (Provide detailed description in narrative)
E39L	Other coupler and draft system defects, (LOCOMOTIVE) (Provide detailed description in narrative)

TRUCK COMPONENTS

E40C	Side bearing clearance insufficient
E40L	Side bearing clearance insufficient (LOCOMOTIVE)
E41C	Side bearing clearance excessive
E41L	Side bearing clearance excessive (LOCOMOTIVE)
E42C	Side bearing(s) broken
E42L	Side bearing(s) broken (LOCOMOTIVE)
E43C	Side bearing(s) missing
E43L	Side bearing(s) missing (LOCOMOTIVE)
E44C	Truck bolster broken
E44L	Truck bolster broken (LOCOMOTIVE)
E45C	Side frame broken
E45L	Side frame broken (LOCOMOTIVE)
E46C	Truck bolster stiff, improper lateral or improper swiveling
E46L	Truck bolster stiff, improper lateral or improper swiveling (LOCOMOTIVE)
E47C	Defective snubbing
E47L	Defective snubbing (LOCOMOTIVE)
E48C	Broken, missing, or otherwise defective springs
E48L	Broken, missing, or otherwise defective springs (LOCOMOTIVE)
E4TC	Truck hunting
E4TL	Truck hunting (LOCOMOTIVE)
E49C	Other truck component defects, (CAR) (Provide detailed description in narrative)
E49L	Other truck component defects, (LOCOMOTIVE) (Provide detailed description in narrative)

Train Accident Cause Codes

	AXLES AND JOURNAL BEARINGS
E51C	Broken or bent axle between wheel seats
E51L	Broken or bent axle between wheel seats (LOCOMOTIVE)
E52C	Journal (plain) failure from overheating
E52L	Journal (plain) failure from overheating (LOCOMOTIVE)
E53C	Journal (roller bearing) failure from overheating
E53L	Journal (roller bearing) failure from overheating- LOCOMOTIVE
E54C	Journal fractured, new cold break
E54L	Journal fractured, new cold break (LOCOMOTIVE)
E55C	Journal fractured, cold break, previously overheated
E55L	Journal fractured, cold break, previously overheated (LOCOMOTIVE)
E59C	Other axle and journal bearing defects (CAR) (Provide detailed description in narrative)
E59L	Other axle and journal bearing defects (LOCOMOTIVE) (Provide detailed description in narrative)
	WHEELS
E60C	Broken flange
E60L	Broken flange (LOCOMOTIVE)
E61C	Broken rim
E61L	Broken rim (LOCOMOTIVE)
E62C	Broken plate
E62L	Broken plate (LOCOMOTIVE)
E63C	Broken hub
E63L	Broken hub (LOCOMOTIVE)
E64C	Worn flange
E64L	Worn flange (LOCOMOTIVE)
E65C	Worn tread
E65L	Worn tread (LOCOMOTIVE)
E66C	Damaged flange or tread (flat)
E66L	Damaged flange or tread (flat) (LOCOMOTIVE)
E67C	Damaged flange or tread (build up)
E67L	Damaged flange or tread (build up) (LOCOMOTIVE)
E68C	Loose wheel
E68L	Loose wheel (LOCOMOTIVE)

Train Accident Cause Codes

(Continued)
WHEELS

E6AC	Thermal crack, flange or tread
E6AL	Thermal crack, flange or tread (LOCOMOTIVE)
E69C	Other wheel defects (CAR) (Provide detailed description in narrative)
E69L	Other wheel defects (LOCOMOTIVE) (Provide detailed description in narrative)

LOCOMOTIVES

E70L	Running gear failure (LOCOMOTIVE)
E71L	Traction motor failure (LOCOMOTIVE)
E72L	Crank case or air box explosion (LOCOMOTIVE)
E73L	Oil or fuel fire (LOCOMOTIVE)
E74L	Electrically caused fire (LOCOMOTIVE)
E75L	Current collector system (LOCOMOTIVE)
E76L	Remote control equipment inoperative (LOCOMOTIVE)
E77L	Broken or defective swing hanger or spring plank (LOCOMOTIVE)
E79L	Other locomotive defects (Provide detail description in narrative)

DOORS

E80C	Box car plug door open
E81C	Box car plug door, attachment defective
E82C	Box car plug door, locking lever not in place
E83C	Box car door, other than plug, open
E84C	Box car door, other than plug, attachment defective
E85C	Bottom outlet car door open
E86C	Bottom outlet car door attachment defective
E89C	Other car door defects (Provide detail description in narrative)

GENERAL MECHANICAL AND ELECTRICAL FAILURES

E99C	Other mechanical and electrical failures, (CAR) (Provide detailed description in narrative)
E99L	Other mechanical and electrical failures, (LOCOMOTIVE) (Provide detailed description in narrative)

Train Accident Cause Codes

TRAIN OPERATION - HUMAN FACTORS

BRAKES, USE OF

H008	Improper operation of train line air connections (bottling the air)
H017	Failure to properly secure engine(s) (railroad employee)
H018	Failure to properly secure hand brake on car(s) (railroad employee)
H019	Failure to release hand brakes on car(s) (railroad employee)
H020	Failure to apply sufficient number of hand brakes on car(s) (railroad employee)
H021	Failure to apply hand brakes on car(s) (railroad employee)
H022	Failure to properly secure engine(s) or car(s) (non railroad employee)
H025	Failure to control speed of car using hand brake (railroad employee)
H099	Use of brakes, other (Provide detailed description in narrative)

EMPLOYEE PHYSICAL CONDITION

H101	Impairment of efficiency or judgment because of drugs or alcohol
H102	Incapacitation due to injury or illness
H103	Employee restricted in work or motion
H104	Employee asleep
H199	Employee physical condition, other (Provide detailed description in narrative)

FLAGGING, FIXED, HAND AND RADIO SIGNALS

H201	Absence of fixed signal (Blue Signal)
H202	Fixed signal improperly displayed (Blue Signal)
H203	Fixed signal improperly displayed
H204	Fixed signal, failure to comply
H205	Flagging, improper or failure to flag
H206	Flagging signal, failure to comply
H207	Hand signal, failure to comply
H208	Hand signal improper
H209	Hand signal, failure to give/receive
H210	Radio communication, failure to comply
H211	Radio communication, improper
H212	Radio communication, failure to give/receive

Train Accident Cause Codes

(Continued)
FLAGGING, FIXED, HAND AND RADIO SIGNALS

H215 Block signal, failure to comply

H216 Interlocking signal, failure to comply

H217 Failure to observe hand signals given during a wayside inspection of moving train

H299 Other signal causes (Provide detailed description in narrative)

GENERAL SWITCHING RULES

H301 Car(s) shoved out and left out of clear

H302 Cars left foul

H303 Derail, failure to apply or remove

H304 Hazardous materials regulations, failure to comply

H305 Instruction to train/yard crew improper

H306 Shoving movement, absence of man on or at leading end of movement

H307 Shoving movement, man on or at leading end of movement, failure to control

H308 Skate, failure to remove or place

H309 Failure to stretch cars before shoving

H310 Failure to couple

H311 Moving cars while loading ramp/hose/chute/cables/bridge plate, etc., not in proper position

H312 Passed couplers

H313 Retarder, improper manual operation

H314 Retarder yard skate improperly applied

H315 Portable derail, improperly applied

H399 Other general switching rules (Provide detailed description in narrative)

MAIN TRACK AUTHORITY

H401 Failure to stop train in clear

H402 Motor car or on-track equipment rules, failure to comply

H403 Movement of engine(s) or car(s) without authority (railroad employee)

H404 Train order, track warrant, track bulletin, or timetable authority, failure to comply

H405 Train orders, track warrants, direct traffic control, track bulletins, radio, error in preparation, transmission or delivery

H406 Train orders, track warrants, direct traffic control, track bulletins, written, error in preparation, transmission or delivery

H499 Other main track authority causes (Provide detailed description in narrative)

Train Accident Cause Codes

TRAIN HANDLING/TRAIN MAKE-UP

H501	Improper train make-up at initial terminal
H502	Improper placement of cars in train between terminals
H503	Buffing or slack action excessive, train handling
H504	Buffing or slack action excessive, train make-up
H505	Lateral drawbar force on curve excessive, train handling
H506	Lateral drawbar force on curve excessive, train make-up
H507	Lateral drawbar force on curve excessive, car geometry (short car/long car combination)
H508	Improper train make-up
H509	Improper train inspection
H510	Automatic brake, insufficient (H001) -- see note after cause H599
H511	Automatic brake, excessive (H002)
H512	Automatic brake, failure to use split reduction (H003)
H513	Automatic brake, other improper use (H004)
H514	Failure to allow air brakes to fully release before proceeding (H005)
H515	Failure to properly cut-out brake valves on locomotives (H006)
H516	Failure to properly cut-in brake valves on locomotives (H007)
H517	Dynamic brake, insufficient (H009)
H518	Dynamic brake, excessive (H010)
H519	Dynamic brake, too rapid adjustment (H011)
H520	Dynamic brake, excessive axles (H012)
H521	Dynamic brake, other improper use (H013)
H522	Throttle (power), improper use (H014)
H523	Throttle (power), too rapid adjustment (H015)
H524	Excessive horsepower (H016)
H525	Independent (engine) brake, improper use (except actuation) (H023)
H526	Failure to actuate off independent brake (H024)
H599	Other causes relating to train handling or makeup (Provide detailed description in narrative)

Note: The description of the causes for codes H510 through H526 were originally found in subgroup "BRAKES, USE OF". It has been decided that these causes are more appropriate to the "TRAIN HANDLING/TRAIN MAKEUP" subgroup. Consequently, it was necessary to assign new codes in order to maintain the coding convention and to simplify grouping of causes by computer. The original code has been appended to the description to aid in data conversion.

Train Accident Cause Codes

SPEED

H601 Coupling speed excessive

H602 Switching movement, excessive speed

H603 Train inside yard limits, excessive speed

H604 Train outside yard limits under clear block, excessive speed

H605 Failure to comply with restricted speed

H606 Train outside yard limits in nonblock territory, excessive speed

H699 Speed, other (Provide detailed description in narrative)

SWITCHES, USE OF

H701 Spring Switch not cleared before reversing

H702 Switch improperly lined

H703 Switch not latched or locked

H704 Switch previously run through

H705 Moveable point switch frog improperly lined

H799 Use of switches, other (Provide detailed description in narrative)

CAB SIGNALS

H821 Automatic cab signal, failure to comply

H822 Automatic cab signal cut out

H823 Automatic train-stop device cut out

H824 Automatic train control device cut out

H899 Other causes relating to cab signals (provide detailed description in narrative)

MISCELLANEOUS

H991 Tampering with safety/protective device(s)

H992 Operation of locomotive by uncertified/unqualified person

H993 Human Factor - track

Example: Track is inspected and an FRA defect is found; however, the track supervisor decides to delay repairs and does not slow order that location. A derailment occurs which is attributable to the defective track condition.

H994 Human Factor - signal

Example: A signal maintainer was servicing the signal cabinet. It was later determined, during an investigation of a rear-end collision, that the repairs were improperly performed causing a clear signal to be incorrectly displayed.

Train Accident Cause Codes

H995 Human Factor - motive power and equipment

Example: A car inspector observes a obvious thin flange wheel that normally requires the car to be removed from service. However, because the train is ready to leave, he elects to leave in service. The wheel splits the next switch point and the car derails.

H999 Other train operation/human factors (Provide detailed description in narrative)

MISCELLANEOUS CAUSES NOT OTHERWISE LISTED

ENVIRONMENTAL CONDITIONS

M101 Snow, ice, mud, gravel, coal, etc. on track

M102 Extreme environmental condition - TORNADO

M103 Extreme environmental condition - FLOOD

M104 Extreme environmental condition - DENSE FOG

M105 Extreme environmental condition - EXTREME WIND VELOCITY

M199 Other extreme environmental conditions (provide detailed description in narrative)

LOADING PROCEDURES

M201 Load shifted

M202 Load fell from car

M203 Overloaded car

M204 Improperly loaded car

M205 Oversized load, misrouted

M206 Trailer or container tiedown equipment improperly applied

M207 Overloaded/improperly loaded container/trailer on flat car

M299 Miscellaneous loading procedures (Provide detailed description in narrative)

HIGHWAY-RAIL GRADE CROSSING ACCIDENTS

M301 Highway user impairment because of drug or alcohol usage (as determined by local authorities, e.g., police)

M302 Highway user inattentiveness

M303 Highway user misjudgment under normal weather and traffic conditions

M304 Highway user cited for violation of highway-rail grade crossing traffic laws

M305 Highway user unawareness due to environmental factors (angle of sun, etc.)

Train Accident Cause Codes

(Continued)
HIGHWAY-RAIL GRADE CROSSING ACCIDENTS

M306 Highway user inability to stop due to extreme weather conditions (dense fog, ice or snow packed road, etc.)

M307 Malfunction, improper operation of train activated warning devices

M399 Other causes (Provide detailed description in narrative)

UNUSUAL OPERATIONAL SITUATIONS

M401 Emergency brake application to avoid accident

M402 Object or equipment on or fouling track (motor vehicle - other than highway-rail crossing)

M403 Object or equipment on or fouling track (livestock)

M404 Object or equipment on or fouling track - other than above (for vandalism, see code M503)

M405 Interaction of lateral/vertical forces (includes harmonic rock off)

M406 Fire, other than vandalism, involving on-track equipment

M407 Automatic hump retarder failed to sufficiently slow car due to foreign material on wheels of car being humped

M408 Yard skate slid and failed to stop cars

M409 Objects such as lading chains or straps fouling switches

M410 Objects such as lading chains or straps fouling wheels

OTHER MISCELLANEOUS

M501 Interference (other than vandalism) with railroad operations by nonrailroad employee

M502 Vandalism of on-track equipment, e.g., brakes released

M503 Vandalism of track or track appliances, e.g., objects placed on track, switch thrown, etc.

M504 Failure by nonrailroad employee, e.g., industry employee, to control speed of car using hand brake

M505 Cause under investigation (Corrected report will be forwarded at later date)

M599 Other miscellaneous causes (Provide detailed description in narrative)